

**IN THE CLAIMS**

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A sensor element for detecting particles possibly contained in an analyte, comprising:

☐ ~~having~~ a substrate;

☐ ~~having~~ at least two electrodes, at least one of —in and/or on the substrate;

☐ ~~having~~ catcher molecules, ~~which are~~ immobilized on a surface region of the substrate and ~~are~~ set up in such a way that they hybridize with the particles to be detected that are possibly contained in an analyte, ~~which the~~ particles ~~have~~ including a label having different electrical properties than the analyte; and

☐ ~~having~~ a detection device, coupled to the electrodes, and ~~serving for to~~ detecting an alteration of the capacitive component of the impedance between the electrodes on account of labels situated in a region surrounding the electrodes owing to a hybridization event.

2. (Currently Amended) The sensor element as claimed in claim 1, further comprising

~~having~~ an electrically insulating layer at least one of between the electrodes and the catcher molecules and/or on regions of the substrate between the electrodes.

3. (Currently Amended) The sensor element as claimed in claim 1 ~~or 2~~, \_

~~in which~~ wherein the catcher molecules are immobilized on or above the electrodes, on the one hand, and between the electrodes, on the other hand.

4. (Currently Amended) The sensor element as claimed in ~~one of claims 1 to 3~~ claim 1,  
set up as a biosensor element.

5. (Currently Amended) The sensor element as claimed in ~~one of claims 1 to 4~~ claim 1,  
set up as a monolithically integrated sensor element.

6. (Currently Amended) The sensor element as claimed in ~~one of claims 1 to 5~~ claim 1,  
~~which has~~ wherein the sensor element includes two electrodes, and ~~in which~~ wherein the detection device is set up for detecting an AC current signal on account of an AC voltage signal applied between two electrodes.

7. (Currently Amended) The sensor element as claimed in ~~one of claims 1 to 6~~ claim 1,  
wherein the sensor element includes ~~which has~~ two pairs of electrodes, and ~~in which~~ wherein the detection device is set up for detecting a current signal at one of the pairs and for detecting a voltage signal at the other of the pairs.

8. (Currently Amended) The sensor element as claimed in ~~one of claims 1 to 7~~ claim 1,  
~~in which~~ wherein at least one of the catcher molecules are arranged at such a distance from one another and ~~or in which~~ the labels have such a dimensioning that, in the case of hybridization events, the region between the electrodes is free of a continuous bridging by the labels.

9. (Currently Amended) The sensor element as claimed in ~~one of claims 1 to 8~~claim 1, wherein  
~~in which~~ the labels are formed from an electrically insulating material.

10. (Currently Amended) The sensor element as claimed in ~~one of claims 1 to 9~~claim 1, \_  
~~in which wherein~~ the labels have a relative permittivity which is greater than a relative permittivity of the analyte.

11. (Currently Amended) The sensor element as claimed in ~~one of claims 1 to 9~~claim 1, wherein  
~~in which~~ the labels have a relative permittivity which is less than a relative permittivity of the analyte.

12. (Currently Amended) The sensor element as claimed in ~~one of claims 1 to 8~~claim 1, wherein  
~~in which~~ the labels are formed from an electrically conductive material.

13. (Currently Amended) The sensor element as claimed in claim 12, wherein  
~~in which~~ the labels are formed from small metallic balls having dimensions in the nanometers range.

14. (Currently Amended) A sensor array comprising  
~~having~~ a plurality of sensor elements as claimed in ~~one of claims 1, to 13~~ which are formed at least one of in and/or on the substrate.

15. (Currently Amended) A method for detecting particles possibly contained in an analyte, using  
~~with~~ a sensor element including,  
e \_\_\_\_\_ ~~having~~ a substrate, +

e ~~\_\_\_\_\_ having~~ at least two electrodes, at least one of in  
and/or on the substrate,

e ~~\_\_\_\_\_ having~~ catcher molecules, ~~which are~~ immobilized on a  
surface region of the substrate and ~~are~~ set up in such a way  
that they hybridize with particles to be detected that are  
possibly contained in an analyte, ~~which the~~ particles ~~have~~  
including a label having different electrical properties than  
the analyte, and

e ~~\_\_\_\_\_ having~~ a detection device, coupled to the electrodes  
~~and serving for detecting~~, to detect an alteration of the  
capacitive component of the impedance between the electrodes  
on account of labels situated in a region surrounding the  
electrodes owing to a hybridization event,

~~in which case, in accordance with the method, comprising:~~

e ~~\_\_\_\_\_ bringing~~ the analyte ~~is brought~~ into operative contact  
with the catcher molecules immobilized on the surface region  
of the substrate in such a way that the catcher molecules  
hybridize with particles to be detected that are possibly  
contained in the analyte, ~~which the~~ particles ~~have~~ including a  
label having different electrical properties than the

~~\_\_\_\_\_ analyte; and~~

e ~~\_\_\_\_\_ using~~ the detection device ~~coupled to the electrodes is~~  
~~used~~ to detect an alteration of the capacitive component of  
the impedance between the electrodes on account of labels  
situated in a region surrounding the electrodes owing to a  
hybridization event.

16. (New) The sensor element as claimed in claim 1,  
wherein the catcher molecules are immobilized on or above the  
electrodes, on the one hand, and between the electrodes, on  
the other hand.

17. (New) A sensor array comprising a plurality of sensor elements as claimed in claim 2, which are formed at least one of in and on the substrate.

18. (New) A method for detecting, using a sensor, particles possibly contained in an analyte, the method comprising:

bringing the analyte into operative contact with catcher molecules of the sensor, immobilized on the surface region of a substrate of the sensor in such a way that the catcher molecules hybridize with particles to be detected that are possibly contained in the analyte, the particles including a label having different electrical properties than the analyte; and

detecting an alteration of the capacitive component of the impedance between electrodes of the sensor on account of labels situated in a region surrounding the electrodes owing to a hybridization event.